



MI Flu Focus

Influenza Surveillance Updates

Bureaus of Epidemiology and Laboratories



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****Notice:** Beginning Wednesday, October 8, 2014, the two influenza newsletters of the MDCH Communicable Disease Division, MI FluFocus, and the MDCH Immunization Division, FluBytes, will be combined into one newsletter, MI FluFocus, so you will receive the same great information in one newsletter. Stefanie DeVita from Immunization and Bethany Reimink from Communicable Disease will be the co-editors. **

Updates of Interest:

- **Michigan:** 23 confirmed cases of enterovirus D68 in Michigan have been confirmed at CDC to date.
- **National:** Clusters of enterovirus D68 continue to be investigated in several states.

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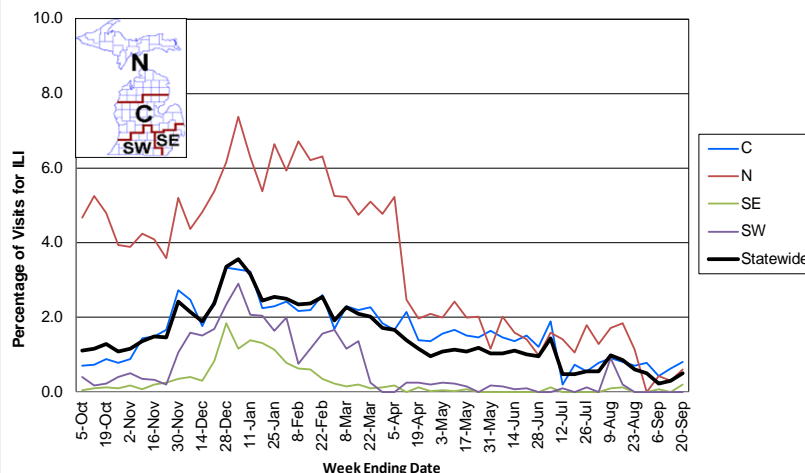
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of September 25): MDSS influenza data for the week ending September 20, 2014 indicated that compared to levels from the previous week, individual reports increased slightly and are still at sporadic levels while aggregate reports increased. Aggregate reports are lower and individual reports are similar to levels seen during the same time period last year.

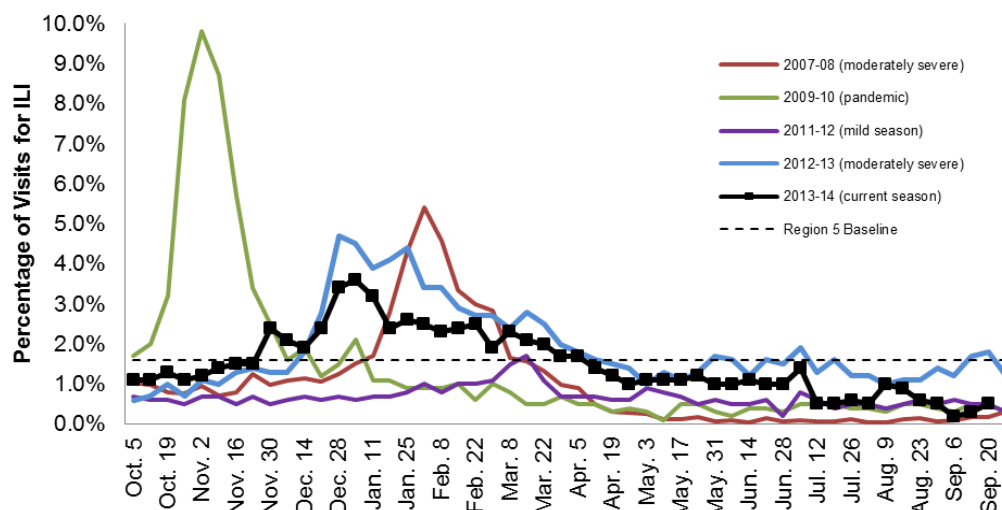
Emergency Department Surveillance (as of September 25): Compared to levels from the week prior, emergency department visits from constitutional complaints increased during the week ending September 20, 2014, while emergency department visits due to respiratory complaints increased considerably compared to the prior week. This was the third consecutive week of increasing respiratory complaints. Constitutional complaints are slightly higher than levels reported during the same time period last year. Respiratory complaints continue to be significantly higher when compared to levels reported during the same time period last year. In the past week, there were 8 constitutional alerts in the SW(1), C(5), and N(2) Influenza Surveillance Regions and 19 respiratory alerts including 2 statewide alerts and alerts in the SE(5), SW(3), C(4), and N(5) Regions.

Sentinel Provider Surveillance (as of September 25): During the week ending September 20, 2014, the proportion of visits due to influenza-like illness (ILI) increased to 0.5% overall; this is below the regional baseline (1.6%). A total of 37 patient visits due to ILI were reported out of 7,554 office visits. Data were provided by 17 sentinel sites from the following regions: Central (6), North (2), Southeast (8), and Southwest (1). ILI activity increased in three regions: C (0.8%), N (0.6%), and SE (0.2%). ILI activity remained the same in one region: SW (0.0%). Please note: These rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2013-14 Flu Season



**Percentage of Visits for Influenza-like Illness (ILI) Reported by
the US Outpatient Influenza-like Illness Surveillance Network
(ILINet): Michigan, Select Seasons**



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie DeVita at 517-335-3385 or DeVitaS1@michigan.gov for more information.

Hospital Surveillance (as of September 25): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2013 and ending April 30, 2014, for Clinton, Eaton, Genesee, and Ingham counties. There were 254 influenza hospitalizations (74 pediatric, 180 adult) within the catchment area for 2013-14. Based on these counts, within the catchment area there were 35.4 pediatric influenza hospitalizations/100,000 population and 26.4 adult influenza hospitalizations/100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Reporting for the 2013-14 season has concluded. 458 hospitalizations were reported during September 29, 2013-April 26, 2014.

Laboratory Surveillance (as of September 20): During September 7-September 20, 2 positive A/H3 (1SE, 1SW) influenza results were reported by MDCH Bureau of Laboratories. For the 2013-14 season (starting Sept. 29, 2013), MDCH has identified 416 positive influenza results:

- Influenza 2009 A/H1N1pdm: 340 (77SE,132SW,94C,38N)
- Influenza A/H3: 37 (17SE,13SW,6C,1N)
- Influenza A unsubtypeable: 1 (1SE)
- Influenza A and B (LAIV recovery): 1 (1SE)
- Influenza B: 42 (11SE,16SW,9C,6N)
- RSV: 2 (2SW)
- Adenovirus: 2 (1SE,1SW)
- Parainfluenza: 3 (1SE,2SW)
- Human metapneumovirus: 4 (4SW)

11 sentinel labs (3SE, 2SW, 4C, 2N) reported for the week ending September 20, 2014. One lab reported sporadic influenza A activity. No labs reported influenza B activity. Two labs (SE, SW) reported sporadic Parainfluenza activity. One lab (N) reported sporadic RSV activity. Two labs (SW) reported sporadic adenovirus activity and one lab (SW) reported sporadic hMPV activity. Most testing volumes are at low levels, with a few sites approaching moderate levels. One site (SE) is approaching high volume.

Michigan Influenza Antigenic Characterization (as of September 25): For the 2013-14 season, 3 Michigan influenza specimens (1SE,2C) have been characterized at CDC as A/California/07/2009-like/H1N1/pdm09, matching the influenza A/H1N1pdm09 strain in the 2013-14 Northern Hemisphere vaccine. 2 specimens (2C) have been characterized at CDC and MDCH as B/Brisbane/60/2008-like, which is a B/Victoria lineage virus; it is not in the 2013-14 Northern Hemisphere trivalent vaccine but is in the quadrivalent vaccine. 29 specimens (7SE,11SW,6C,5N) have been characterized at CDC and MDCH as B/Massachusetts/02/2012-like, which is a B/Yamagata lineage virus that is included in the 2013-14 trivalent and quadrivalent vaccines.

Michigan Influenza Antiviral Resistance Data (as of September 25): For the 2013-14 season, 123 2009 A/H1N1pdm (33SE,37SW,41C,12N) and 15 A/H3 (6SE,7SW,2C) influenza specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza specimens tested have been resistant.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

Influenza-associated Pediatric Mortality (as of September 25): 3 pediatric influenza-associated influenza mortalities (1SE,2C) have been reported to MDCH for the 2013-14 season.

CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of September 25): Two new respiratory outbreaks (C, SW) were reporting to MDCH during the previous two weeks. Investigations are currently underway. 27 respiratory outbreaks (3SE,12SW,9C,3N) have been reported to MDCH during the 2013-14 season:

- Influenza 2009 A/H1N1pdm: 4 (1SE,2SW,1C)
- Influenza A/H3: 1 (1SW)
- Influenza A: 4 (3SW,1C)
- Influenza B: 3 (1SW,1C,1N)
- Influenza positive: 1 (1SW)
- Human metapneumovirus: 2 (1SE,1N)
- RSV: 1 (1SW)
- Parainfluenza: 1 (1SW)
- Negative/no testing: 7 (1SE,1SW,5C,1N)

National (CDC): Past weekly reports and updated data during the summer months are available online at: <http://www.cdc.gov/flu/weekly/>.

International (WHO [edited], September 22): Globally the influenza season was ongoing in the southern hemisphere. Elsewhere influenza activity remained low, except for some tropical countries in the Americas. In Europe and North America, overall influenza activity remained at inter-seasonal levels. In tropical countries of the Americas, influenza B was predominant with co-circulation of respiratory syncytial virus (RSV). In Africa (with exception of the southern cone) and western Asia, influenza activity was low. In eastern Asia, influenza activity remained low in most countries with influenza A(H3N2) the main detected virus subtype. Influenza A(H3N2) and B activity continued in south China. In the southern hemisphere, the influenza season was ongoing. In the temperate zone of South America, influenza activity associated mainly with A(H3N2) viruses decreased. In Australia and New Zealand, the influenza season was ongoing. Australia reported continued high activity associated with A(H1N1)pdm09 and A(H3N2) viruses. In South Africa the influenza season continued with A(H3N2) predominating. Based on FluNet reporting (as of 18 September 2014 15:50 UTC), during weeks 35 to 36 (24 August 2014 to 6 September 2014), National Influenza Centres (NICs) and other national influenza laboratories from 50 countries, areas or territories reported data. The WHO GISRS laboratories tested more than 22 607 specimens. 2675 were positive for influenza viruses, of which 2168 (81%) were typed as influenza A and 507 (19%) as influenza B. Of the sub-typed influenza A viruses, 529 (30.1%) were influenza A(H1N1)pdm09 and 1231 (69.9%) were influenza A(H3N2). Of the characterized B viruses, 66 (98.5%) belonged to the B-Yamagata lineage and 1 (1.5%) to the B-Victoria lineage.

The entire WHO report is available online at http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/

Weekly reporting of influenza activity to the CDC has ended for the 2013-2014 influenza season.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Novel Influenza Activity and Other News

WHO Pandemic Phase: Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza.

International, Poultry (OIE [edited], September 20): Highly pathogenic avian influenza H5N6; Vietnam Outbreak 1: Tinh An Dong, Quang Ngai city, Quang Ngai; Date of start of the outbreak: 13 Sep 2014 Species: Birds; Susceptible: 1000; Cases: 1000; Deaths: 300; Destroyed: 700. Outbreak 2: Phu Quy 3, Tam My Dong, Nui Thanh, QUANG NAM; Date of start of the outbreak: 14 Sep 2014; Species: Birds; Susceptible: 2000; Cases: 2000; Deaths: 600; Destroyed: 1400.

International, Poultry (OIE [edited], September 15): Low pathogenic avian influenza H5N6; Laos Outbreak 1: Viengsavanh, Luangprabang. Date of start of the outbreak: 14 Jul 2014 Species: Birds; Susceptible: 200; Cases: 2; Deaths: 2; Destroyed: 198.

International Poultry and Wild Bird Surveillance (OIE): Reports of avian influenza activity, including summary graphs of avian influenza H5N1 outbreaks in poultry, can be found at the following website: http://www.oie.int/download/AVIAN%20INFLUENZA/A_AI-Asia.htm.

International Human Surveillance (WHO): Reports of novel influenza activity in humans, including avian influenza A/H5N1 and A/H7N9, are available online at www.who.int/influenza/human_animal_interface/en/.

Michigan, Enterovirus (Press Release [edited], September 19): LANSING, Mich. –The Michigan Department of Community Health (MDCH) today received testing results by the Centers for Disease Control and Prevention (CDC) laboratory that three specimens submitted by the MDCH have tested positive for enterovirus D68 (EV-D68) to date. Michigan has seen an increase in severe respiratory illness in children across the state, and the department is working with the CDC, Michigan local health departments and hospitals to monitor the increase.

Of the three confirmed Michigan cases, additional details are not available at this time pending notification of patients and families. Michigan is working with hospitals and local health departments to investigate these cases. Based on the increase seen across the state, this is the first set of positive cases and Michigan expects confirmation of additional cases.

The full press release can be found at: <http://www.michigan.gov/minewswire/0,4629,7-136-3452-337866--00.html>

National, Enterovirus D68 (WHO [edited], September 17): On 10 September 2014, the United States of America informed the Pan American Health Organization/World Health Organization (PAHO/WHO) about an outbreak of severe respiratory illness associated with enterovirus D68 (EV-D68). As of 16 September 2014, 130 laboratory-confirmed cases of EV-D68 have been reported in 12 US states – Alabama, Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Missouri, New York, Oklahoma, and Pennsylvania. Investigations into suspected clusters in many other states are ongoing.

EV-D68 is identified using molecular techniques at a limited number of laboratories in the USA. Enterovirus infections, including EV-D68, are not nationally notifiable, but laboratory detections of enterovirus and parechovirus types are reported voluntarily to the National Enterovirus Surveillance System, which is managed by the US Centers for Disease Control and Prevention.

Currently, there are no available vaccines or specific treatments for EV-D68 and clinical care is supportive. Symptoms of EV-D68 may include fever, runny nose, sneezing, cough, and body and muscle aches. Individuals with pre-existing conditions, such as asthma or other respiratory diseases, may be especially prone to severe infections from EV-D68 and may experience difficulty breathing or have wheezing.

The update is available online at <http://www.who.int/csr/don/17-september-2014-enterovirus/en/>

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